



Tidal River Largemouth Bass Outlook - 2008

Virginia's tidal rivers are characterized by extreme environmental gradients. For example, tropical and coastal storms produce wind driven storm surges and dramatic increases in freshwater flow, while periods of prolonged regional drought result in greatly reduced freshwater flow and elevated salinity levels. Fish living in these dynamic systems are exposed to, and must cope with, frequent shifts in habitat quality. Introduced largemouth bass populations are particularly affected by these impacts. During a recent prolonged drought, frustrated anglers reported reduced catches of largemouth bass over several years – the reduced catch being a result of poor recruitment of young bass to the fishery. After the drought broke in late 2002, bass populations rapidly improved, resulting in increased angler catches. By 2006, tidal bass populations were so strong that in many rivers, including the tidal Chickahominy, electrofishing catch rates were at record highs – Electrofishing is a technique fisheries managers use to sample fish living along shorelines and other shallow water habitats in rivers and lakes.

While beds of submerged aquatic vegetation (SAV), critical to the health of the Chesapeake Bay, are much reduced from historical levels, in recent years, SAV has expanded in many areas of Virginia's tidal rivers where largemouth bass occur – SAV beds provide excellent habitat for young bass as well as forage species.

Following several years of good recruitment and low adult bass mortality, the outlook for Virginia's tidal river bass fisheries in 2008 is excellent.

Tidal James River System

Four consecutive years of good recruitment of young bass has occurred in this population (Figure 1). As a result, boat electrofishing catch rates hit a record high of 88 bass/hour in 2007. The most dramatic increase was in catch of bass 15 inches and larger, these “preferred-size” bass were caught at a rate of 24 bass/hour – more than double that of the previous survey year. Anglers can expect a robust largemouth fishery in the tidal James and its tributaries over the next several years, with increased catches of 3 – 5 pound bass likely.

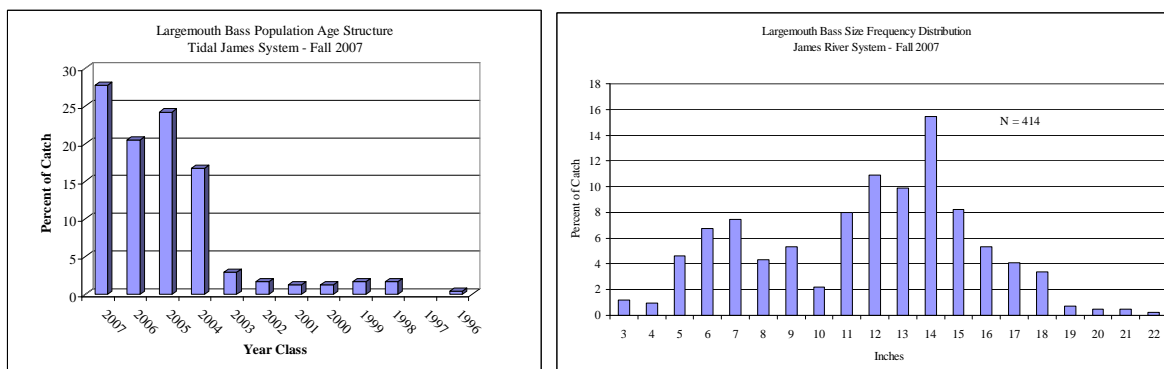


Figure 1. Tidal James River largemouth age structure and size distribution - sampled by boat electrofishing in 2007. Note, the 2004 - 2007 year-classes make up 89% of the sample.

Anglers unfamiliar with the tidal James should be aware that some of the best largemouth fishing in this system can be found in tidal tributaries from the Appomattox River down to Upper Chippokes Creek – tributaries below this being more likely to be impacted by spikes in salinity. Fishing for largemouth in the mainstem James is best above Hopewell – below this there are only isolated pockets of suitable bass habitat available in the river.

Tidal Chickahominy River System

During the prolonged drought described above, consistent poor recruitment resulted in angler-perceived declines in the fishery. Given the high profile status of the Chickahominy bass fishery, angler concern, and the willingness of various organizations to help fund research, in 2005, biologists began a multi-year project to evaluate the feasibility of using supplemental stocking to offset any future period of poor recruitment in the fishery. Fingerling stocking in 2005 resulted in poor returns of stocked fish. However, to-date, the results of fingerling stocking in 2006 and 2007 have been quite positive, with good electrofishing catch rates of stocked fish, and high contributions of stocked fish to the 2006 and 2007 year classes. Analysis of the long-term survival of stocked fish is ongoing, and further information regarding this study is available in project reports.

By the time this stocking project was initiated, recruitment issues associated with the drought were behind us and the fishery was rapidly improving, with angler catch rates almost doubling between 2002 and 2005. In 2005, the reported catch of bass per angler-hour was higher than in any previous angler survey of the tidal Chickahominy, or of several other Virginia waters.

The most recent electrofishing surveys of the tidal Chickahominy indicate that this is a very healthy largemouth population. Natural recruitment has been good for several years, the 2005 year class being exceptionally strong (Figure 2), and adult mortality is not excessive. With an abundance of bass moving into the fishery, increased angler catches are likely.

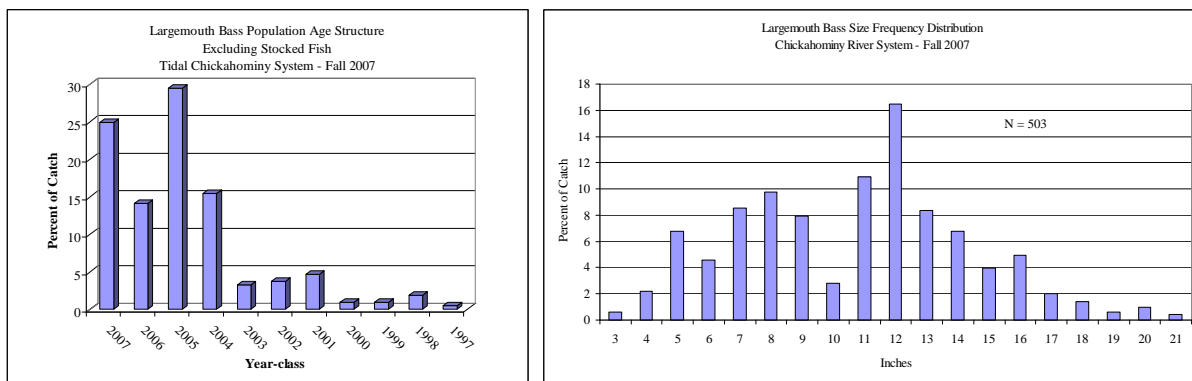


Figure 2. Tidal Chickahominy River largemouth age structure and size distribution – sampled in late 2007.

In recent years, the tidal Chickahominy has seen dramatic increases in SAV, along with generally improving habitat conditions. Suitable largemouth bass habitat exists throughout the tidal Chickahominy and its tidal tributaries.

Pamunkey

A boat electrofishing survey of the Pamunkey was conducted in October 2007. Results indicate recruitment of young bass has been stable since the drought broke in 2002, with the 2006 year class being exceptional (Figure 3). Movement of these bass into the fishery provides the potential for increased angler catches in 2008, and coming years. Largemouth bass in the Pamunkey grow slower than the tidal Chickahominy, James, or Rappahannock rivers, generally reaching 12 inches as 3 year olds, and not achieving 15 inches until age 5.

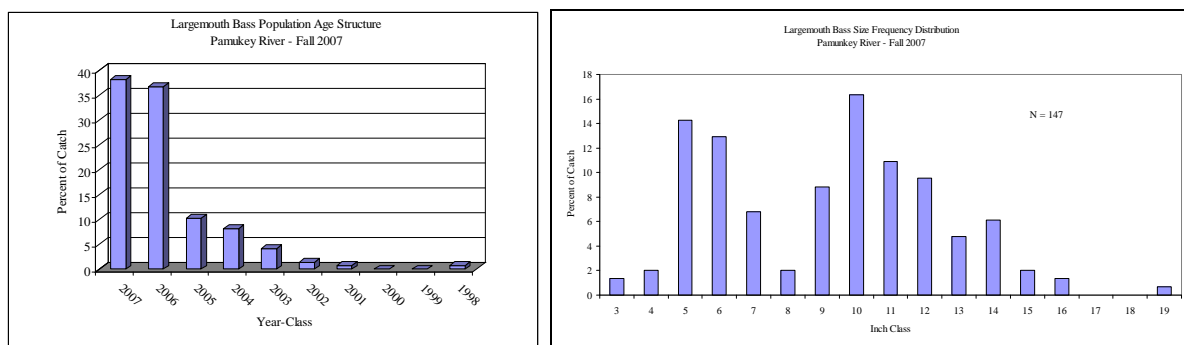


Figure 3. Pamunkey River largemouth population age structure and size distribution – sampled by boat electrofishing in late 2007.

Rappahannock

The tidal Rappahannock largemouth population has experienced good recruitment over the past four years – including an exceptionally strong 2005 year-class (Figure 4). This combined with relatively low adult mortality, should yield increased angler catch rates and continued improvement in the size structure of the catch. However, electrofishing catch rates for largemouth bass in the tidal Rappahannock River continue to be among the lowest of any tidal river in Virginia, with catch of largemouth over 15 inches about half that of the James River system.

In electrofishing surveys, the highest bass catch rates continue to be from Hicks Landing downstream to near Port Royal. Below Portobago Bay, only limited areas of suitable habitat and forage are available – primarily shorelines adjacent to side-channel drop-offs and marsh back channels. However, recent electrofishing surveys indicate good numbers of preferred-size largemouth can be found in these isolated pockets, as well as in certain tidal tributaries.

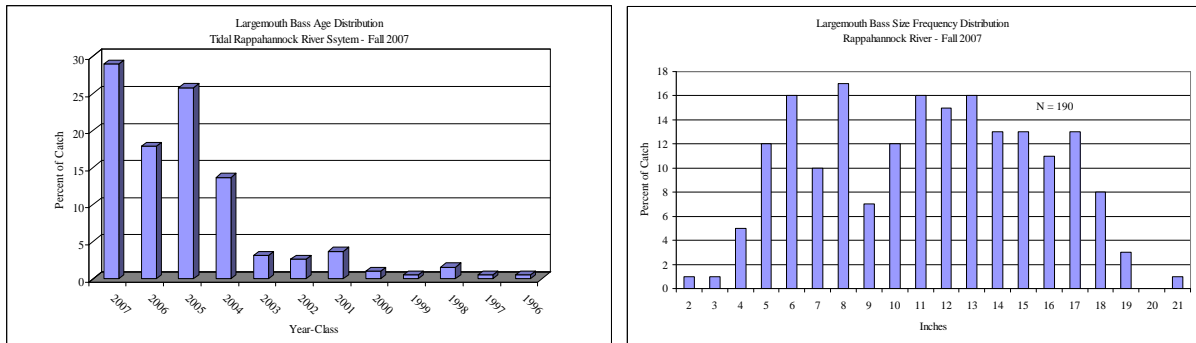


Figure 4. Tidal Rappahannock River largemouth population age structure and size distribution – sampled by boat electrofishing in late 2007. Note, strong 2005 year-class.

Summary

A comparison of largemouth catch rates, or of bass 15 inches and larger, may help guide those anglers planning a tidal river fishing trip (Figure 5).

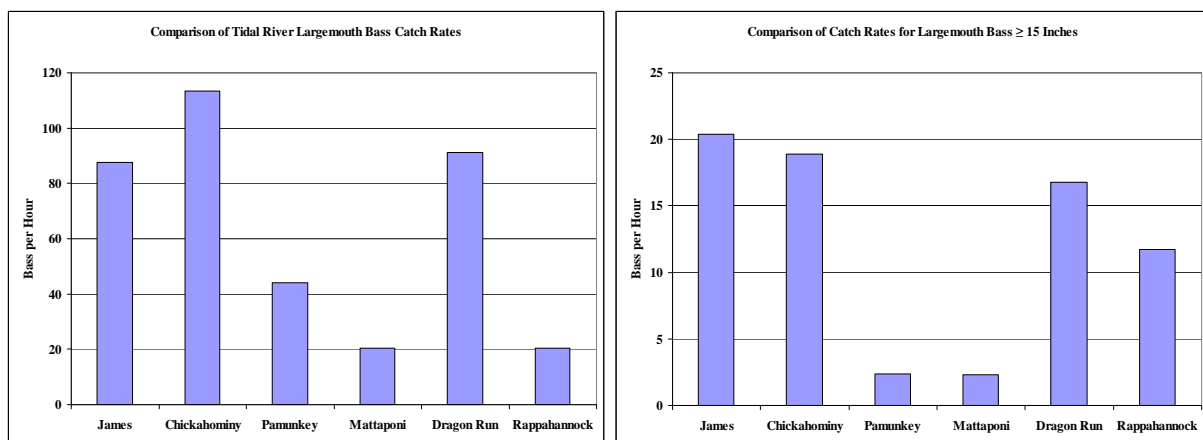


Figure 5. Comparison of largemouth catch rates and catch rates for bass ≥ 15 inches in recent electrofishing surveys of the tidal Chickahominy, James, Mattaponi, Pamunkey, and Rappahannock.

Tidal River Summary

1 – Chickahominy: High angler catch rates with good numbers of 3 to 5 pound bass – fish over 6 pounds in the system. Following several years of good recruitment, the fishery should continue to be robust.

2 – James and tributaries: Although catch rates are somewhat lower than the tidal Chickahominy, this is a healthy largemouth fishery. Bass exhibit early rapid growth, generally being 1 – 2 inches bigger than those of similar age in the tidal Chickahominy.

3 – Pamunkey: Slower growth and lower catch rates than the James or Chickahominy. Consistent recruitment over several years, providing the potential for increased angler catch rates.

4 – Lower Dragon Run/Piankatank: This is a relatively small and inaccessible fishery. However, it is worth mention, given high catch rates in recent electrofishing surveys, and good numbers of largemouth over 15 inches available to anglers who seek them out.

5 – Rappahannock: While electrofishing catch rates have doubled in recent years, they are still relatively low. With low catch rates and slower bass growth, this largemouth fishery has never had the national reputation of the tidal Chickahominy and James. However, it does provide higher catch rates for preferred-size bass than either the Pamunkey or Mattaponi.

6 – Mattaponi: Very low bass catch rates in recent electrofishing surveys, with highest catches of largemouth concentrated from just above Aylett to downstream of Walkerton.

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